

A SYSTEMATIC INDEX TO THE KEYS FOR THE
DETERMINATION OF THE NEARCTIC
COLEOPTERA*

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Adequate analytical keys are scarcely less important to the progress of coleopterology than are the original descriptions. The following index has been drawn up with the object of facilitating reference to the extant keys for the determination of families, genera, and species of the Coleoptera of America north of Mexico.

The several systematic groups are arranged in the sequence of the Leng (1920) "Catalogue of the Coleoptera of America north of Mexico" and are followed by brief bibliographical references which involve the author's name, the last two figures of the year of publication, and a page number which refers either to the first page of the paper containing the key or to the first page upon which the key actually begins. The complete reference is to be obtained either from the bibliography (to Jan. 1, 1919) on pages 367 to 444 of the Leng (1920) "Catalogue" or from the supplementary bibliography at the end of this index. The abbreviation "G.I." followed by a figure indicates a fascicule of Wytzman's *Genera Insectorum*, which is not further mentioned in the bibliography.

Further information concerning the scope of the key is given in parentheses after the page number. If no such notation occurs, it is to be understood that the key is to *all* the *species* of *adults* known to its author for the *entire* Nearectic area north of Mexico *previous to the date of publication*. The key may be limited by being only to the species of a part of the group or genus, a subgenus, a group of species or the species of a particular geographical region. It may further be limited by being only to families, genera, or subgeneric groups. Finally, it may be a key to some

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other than the adult stage, as to eggs, larvæ, or pupæ. In view of the paucity of keys to larvæ and the similarity of the Nearctic and Palæarctic genera, European as well as American keys to genera of larvæ have frequently been included. Larval keys to genera rarely exhaust the genera of the group under consideration. Some of the earlier keys by Leconte and others did not go further than to groups of species, whereupon one must read through a series of specific descriptions to make a determination. Such keys are designated, in part, as "imperfect."

The more inclusive papers are indexed but once, so that, if one desires to ascertain the keys that exist for any particular genus, he must not only consult that genus, but look for possible references under the tribe, subfamily, family, and series, as well as the group of references preceding Adaphaga at the beginning of the index.

The student must always remember that he will find keys to genera in Leconte and Horn (1883), keys to species inhabiting Indiana, exclusive of the Rhyncophora, in Blatchley (1910), keys to the species of most of the genera of Rhyncophora in Leconte and Horn (1876), and keys to the species of Rhyncophora of eastern North America in Blatchley and Leng (1916). Furthermore, the student should generally use the most recent key and check it against species or groups not included in it, especially such as have been described since its publication.

The aim of the index has been practical, and little effort has been made to go back of Leconte and Horn or to include references of primarily historical interest. The bibliographies in Blatchley's "Coleoptera of Indiana," Blatchley and Leng's "Rhyncophora of North Eastern America," and the bibliographical references in Leng's "Catalogue of the Coleoptera of America north of Mexico" have been used, but especial acknowledgment must be made to the bibliography by Henshaw in the back of Leconte and Horn's "Classification of the Coleoptera of North America" (1883), its supplement in the back of Henshaw's "Third Supplement to the List of the Coleoptera of America north of Mexico" (1895), and Bank's "List of Works on North American Entomology" (1910), all of which were drawn up to serve somewhat the same purpose as the present index. The

author is further indebted to Professor Paul S. Welch for calling his attention to some of the references to larvæ.

It is hoped that it may be possible to issue periodic supplements to this index which will include new keys as they appear as well as old references that have been overlooked in the preparation of the present work. The author will appreciate having omissions and errors called to his attention.

COLEOPTERA Leconte and Horn 83 (genera), Hayward 09 (fam.), Brues and Melander 15:30 (fam.) Comstock 25:467 (fam.), Essig 26:369-521 (fam.), Lec. 69:251 (fam. of Rhyphoga), Pierce 16:462 (superfam. of Phytophaga), Leng 20:15-16 (series), MacGillivray 03:289 (fam. of larvæ), Schiöde 61-83 (many keys to larvæ: not seen), Kuhnt 13:1091 (fam. of Cantharoid larvæ), Seidlitz 98:312 (fam. of larvæ of Lagriidæ, Pyrochroidæ, Pythidæ).

COLEOPTERA GENUINA Blatchley 10 (Ind.).

COLEOPTERA AQUATIC Needham 18:937 (genera of adults, fam. of larvæ), Wilson 23:268-71 (fam. and genera of larvæ and pupæ of Iowa).

ADEPHAGA Horn 67:153 (fam.), Fowler 12:51 (fam.), Notman 25:4 (fam.), Ganglbauer 92:4 (fam. of larvæ).

CICINDELIDÆ Schaupp 83:73, Leng and Beutenmüller 94:87-96 (n. e. N. A.), Horn 08-15: G. I. 82 (genera), Hamilton 25:1 (larvæ). **AMBLYCHEILA** Csy. 24:2. **OMUS** Horn and Schaupp 78:6, Csy. 98:288, 09:255, 14:1, 16:20 (*hornii* group). **CICINDELA** Lec. 57:27, Csy. 13:27 (*12-guttata* group), 14:17 (*longilabris* group), 97:294 (*Dromochorus*), Wickham 94:151 (Ont., Que.), Blanchard 23:412 (Cheyboygan and Emmet Co., Mich.).

CARABIDÆ Horn 81:91 (genera), van Emden 19:3-33 (genera of larvæ), 21:128 (genera of larvæ).

Carabinæ Leng and Beutenmüller 94:135-141, 175-190 (n. e. N. A., no key to genera).

Trachypachini Horn 78:30, Csy. 20:144, Van Dyke 25:112.

- Cychnini** Horn 78: 168, Schaupp 79: 79, Lec. 68: 60 (Pacific), Roesche 07: 9-277. **NOMARETUS-MARONETUS** Schwarz 95: 269. **PEMPHUS** Csy. 97: 338. **BRENNUS** Csy. 97: 307, 20: 183 (*cordatus* group). **NEOCYCHRUS** Van Dyke 24: 6.
- Carabini**: **CARABUS** Horn 76: 247, Lec. 78: 66. **CALOSOMA-CALLISTHENES** Lec. 78: 64, Burgess 17: 17 (adults and larvæ). **CALLISTHENES** Csy. 20: 164 (*pimeloides* group), 13: 70 (*luxatus* group).
- Elaphrini** Horn 78: 29 (except species of *Elaphrus*). **ELAPHRUS** Horn 76: 246, Schaupp 78: 6. **BLETHISA** Horn 76: 247.
- Loricerini** Horn 78: 29, Van Dyke 25: 114, Rousseau 08: G. I. 86 (genera).
- Opisthiini** Horn 78: 30, Dupuis 12: G. I. 126 (genera).
- Notiophilini** Horn 76: 247, 78: 30, Fall 06: 82, Dupuis 12: G. I. 134 (genera).
- Nebriini** Bänninger 25: 180, 256, 329 (groups). **PELOPHILANEBRIA** Horn 70: 97, Lec. 78: 473, Schaupp 78: 45, 63.
- Metriini** Van Dyke 25: 123, Dupuis 11: G. I. 116 (genera).
- Promecognathini** Schaupp 79: 15, Csy. 13: 93, Rousseau 08: G. I. 84 (genera).
- Scaritini** Lec. and Schaupp 79: 15-18, 31-34, 59. **PASIMACHUS** Lec. 74: 266 (imperfect), Csy. 13: 76, Leng 15: 567 (Fla.). **SCARITES** Leng 15: 568. **CLIVINIA-ARDISTOMIS** Lec. 57: 75 (no keys to genera, keys imperfect). **CLIVINIA** Horn 81: 7 (groups), Fall 22: 161 (groups).
- Harpalinæ Bisetosæ**: **Panagæini** Lec. 79: 59, Leng and Beutenmüller 95: 73 (n. e. N. A.).
- Psydrini** Dupuis 12: G. I. 123 (genera).
- Bembidiini** Lec. 57: 2 (groups), Csy. 18: 1. **BEMBIDION** (s. lat.) Hayward 97: 32, Fall 10: 94 (*littorale* group), Notman 19: 296 (*musciicola* group). **TACHYS** (s. lat.) Hayward 99: 191.
- Pogonini-Pogonini veri** Horn 82: 47-48. **PATROBUS-PLATIDUS** Horn 75: 130, Csy. 18: 395, 398. **PATROBUS** Leng and Beutenmüller 95: 74 (n. e. N. A.). **TRECHUS** Schæffer 01: 209, Leng and Beutenmüller 95: 76 (n. e. N. A.), Csy. 18: 405, Jeannel 27: 113, 146-156, 167, 185. **NEAPHÆNOPS-**

PSEUDANOPHTHALMUS (*Anophthalmus*) Horn 68: 126, 71: 329, 83: 270.

Pterostichini Lec. 52: 225, Wickham 95: 180-190 and 96: 42 (n. e. N. A., no key to genera), Csy. 18: 320 (genera). MYAS Schaupp 82: 63, Csy. 18: 326. HOLCIPHORUS Horn 80: 50, Csy. 13: 96. CYLINDROCHARIS Csy. 18: 327. PTEROSTICHUS (s. lat.) Lec. 73: 302, Schaupp 82: 15, Csy. 13: 100-129 (parts). LEPTOFERONIA Horn 91: 33 (*Pterostichus*). GASTRELLARIUS-EVARTHURUS Csy. 18: 339-358. GASTRELLARIUS Horn 91: 34 (*Pterostichus*). EVARTHURUS (s. lat.) Lec. 73: 318, Schaupp 80: 21, Wickham 95: 189 (n. e. N. A.). EVARTHURINUS Csy. 20: 194. FERESTRIA Csy. 20: 191. EUFERONIA Csy. 18: 365. GASTROSTICTA Csy. 18: 371. LOPHOGLOSSUS Schaupp 80: 49, Csy. 13: 143. PARARGUTOR Csy. 18: 377. BOTHRIOPTERUS Csy. 13: 138. LOXANDRUS Lec. 52: 250, 78: 375. Schaupp 80: 19, Csy. 18: 380.

Amarini Lec. 55: 346 (imperfect), Wickham 96: 33-42 (n. e. N. A.), Hayward 08: 13 (except *Celia*), Csy. 18: 225 (genera). BRADYTUS-TRIÆNA Csy. 18: 235-314. BRADYTUS Horn 75: 128. CELIA Horn 92: 19. AMARA Horn 75: 127. TRIÆNA Horn 92: 18.

Licinini Wickham 96: 43-49 (n. e. N. A., no key to genera). REMBUS Horn 80: 52, Csy. 97: 347, 13: 147. DICÆLUS Lec. 69: 246 (groups), Horn 80: 51, Csy. 20: 206 (*elongatus* group). BADISTER Lec. 80: 165, 82: 7, Csy. 20: 207.

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Lebiini Horn 82: 126 (except *Lebia*), Horn and Schaupp 79: 86 and 81: 39-44, 53-55 (*Tetragonoderus-Lebia*, *Dromius*, *Blechrus-Pinacodera*), Dupuis 13: G. I. 145 (genera of Pentagoniceinæ). LEBIA Horn 72: 130, Csy. 20: 234 (*Loxopeza*),

13: 191 (*aphelogenia* group), 20: 240-252 (parts), 20: 262 (*Dianchomena*). DROMIUS-BLECHRUS Csy. 20: 268-277. AXINOPALPUS Csy. 20: 265. PHILOPHUGA Csy. 13: 173. PINACODERA Csy. 20: 279. CYMINDIS Csy. 13: 178.

Helluonini Lec. 79: 60.

Harpalinæ Unisetosæ: Brachinini Lec. 62: 523 (imperfect).

Chlæniini Lec. 56: 25 (imperfect), Horn 76: 253, 81: 3, 29. ANOMOGLOSSUS Csy. 14: 39.

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OMOPHRONIDÆ Horn 70: 71, Schaupp 78: 5, Csy. 97: 300, 13: 42 (parts), Leng and Beutenmüller 94: 133 (n. e. N. A.), Bänninger 21: 113 (groups), Rousseau 08: G. I. 83 (genera).

HALIPLIDÆ Matheson 12: 156, Zimmermann 24: 1, Wickham 95: 69-70 (Ont., Que.), Leng and Mutchler 18: 92-94 (Fla.). PELTODYTES Roberts 13: 122, Zimmermann 19: 68.

DYTISCIDÆ Crotch 73: 383 (imperfect), Sharp 82: 179, Wickham 95: 70-76, 117-122, 149-153 (Ont., Que.), Zimmermann 19: 68 (genera). CANTHYDRUS Blatchley 19: 308 (Fla.). LACCOPHILUS Horn 83: 283. BIDESSUS Fall 17: 167 (*pictodes* group), Leng and Mutchler 18: 82 (Fla.). Hydroporini Lec. 55: 290. CELAMBUS Fall 19: 1. HYDROPORUS Fall 23: 1, 26: 141 (*12-lineatus* group). AGABUS Fall 22: 3. COLYMBETES Lec. 62: 521 (imperfect).

GYRINIDÆ Lec. 68: 365 (imperfect), Leng and Mutchler 18: 95-97 (Fla.), Regimbart 02: G. I. 1 (genera), Hatch 25: 110 (larvæ). DINEUTUS Roberts 95: 279, Hatch 25: 447 (subgenera), 26: 344 (subgenera), 27: 28 (Mich. larvæ), Ochs 26: 64 (subgenera). GYRINUS Fall 22: 275.

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MELOIDÆ Lec. 53: 328, Wickham 96: 31-35 (Ont., Que.), Mutchler and Weiss 24: 16 (N. J.), Wellman 10: 220 (tribes). **PYROTA** Lec. 66: 159, Csy. 91: 173 (*mylabris* group). **POMPHOPEA** Lec. 66: 161, Horn 73: 115. **EPICAUTA** Horn 73: 95. **MACROBASIS** Horn 73: 88. **LYTTA** Horn 73: 103, 83: 311 (part), Fall 01: 296. **TETRAONYX** Horn 85: 116. **PLEUROPASTA-COLOSPASTA** Horn 78: 60, 91: 99, Wellman 09: 20-21. **Meloini** Horn 68: 139 (genera). **Sitarini** Cockerell 99: 417, Wellman 11: 16-17. **ZONITIS** Horn 75: 155. **GNATHIUM** Horn 70: 94. **NEMOGNATHA** Lec. 80: 212. **TRICRANIA** Lec. 60: 320.

EURYSTETHIDÆ Horn 83: 143, Van Dyke 18: 307.

PYTHIDÆ Wickham 99: 57-61 (Ont., Que.). **PYTHO** Horn 88: 45. **CONONOTUS** Horn 68: 136. **RHINOSIMUS** Lec. 68: 4.

PYROCHROIDÆ Lec. 55: 274. **DENDROIDES** Horn 88: 46.

PEDILIDÆ Lec. 52: 91. **PEDILUS** Lec. 55: 272, Horn 71: 278, 83: 305, 74: 40 (Pacific species), Fall 15: 13 (Pacific

- species). EURYGENIUS-STEREOPALPUS Lec. 55: 270-71.
 MACRATRIA Lec. 55: 276.
- ANTHICIDÆ** Csy. 95: 625. NOTOXUS-MECYNOTARSUS Horn
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- EUGLENIDÆ** Pic 02: G. I. 8 (genera). VANONUS Csy. 05:
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- CEROPHYTIDÆ** Horn 86: 51.
- CEBRIONIDÆ** Horn 81: 82-84, Dalla Torre 12: G. I. 127
 (genera).
- PLASTOCERIDÆ** Schwarz 07: G. I. 50 (genera), Horn 81:
 76-81. ENICONYX Horn 85: 52. APLASTUS Horn 74: 24.
- RHIPICERIDÆ** Horn 81: 85-86.
- ELATERIDÆ** Lec. 53: 405, Schwarz 06-07: G. I. 49 (genera
 of part), Perris 77: 185 (genera of larvæ), Forbes 94: 31
 (genera of larvæ), Kuhnt 13: 1107 (genera of larvæ), Hen-
 riksen 13: 43-48 (larvæ of Danish species). ADELOCERA
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 OTES Lec. 84: 15. DRASTERIUS Lec. 84: 4. ELATER-ECTA-
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 MEGAPENTHES Lec. 84: 6. CARDIOPHORUS Blanchard 89: 4.
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- MELASIDÆ** Lec. 52: 45, Horn 86: 6-50, 52-54. MELASIS
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- THROSCIDÆ** Bonvouloir 59: 18, Horn 85: 198, Blanchard
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- BUPRESTIDÆ** Lec. 59: 187, Knull 25: 5 (Penn.), Kerremans
 02-03: G. I. 12 (genera), Perris 77: 155 (genera of larvæ),
 Henriksen 13: 11 (genera of larvæ), Burke 17: 5 (genera of
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 Csy. 09: 50. HIPPOMELAS Horn 68: 134, 83: 287-288.

DICERCA Crotch 73: 84. CINYRA Chamberlin 20: 243. BUPRESTIS Nicolay and Weiss 18: 81. MELANOPHILA Horn 82: 101. ANTHAXIA Horn 82: 106, Csy. 84: 172. CHRYSOBOTHRIS Horn 86: 65, 94: 368 (part), Fall 10: 46 (*californica* group). ACTENODES Schæffer 04: 209. AGRILUS Crotch 73: 91, Horn 91: 277, Knull 20: 10 (*otiosus* group), Mutchler and Weiss 22: 16 (N. J.). PACHYSCHELUS Nicolay and Weiss 20: 138. BRACHYS Nicolay and Weiss 23: 61. TAPHROCERUS Nicolay and Weiss 20: 143. **Mastogeniini** Schæffer 18: 214.

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HETERO CERIDÆ Horn 90: 1-16, Fall 20: 213 (*Littorimus*).

DASCILLIDÆ, HELODIDÆ Lec. 53: 350, Horn 80: 76.

DERMESTIDÆ Lec. 54: 106, Jayne 82: 343, Csy. 00: 138, Erichson 48: 422 (generic groups of larvæ). PERIMEGATOMA Horn 75: 135.

BYRRHIDÆ Lec. 54: 13, Csy. 12: 1. **Pedilophorini** Wickham 03: 179. **Limnichini** Lec. 79: 514, Csy. 90: 145.

RHYSODIDÆ Lec. 75: 162.

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NITIDULIDÆ, RHIZOPHAGIDÆ Murray 64: 211-414 (incomplete), Horn 79: 267. **Nitidulinæ** Grouvelle G. I. 5 (genera), Schæffer 04: 204 (genera of part). POCADIUS Schæffer 11: 117. OXYCNEMUS Schæffer 11: 117. GLISCHROCHILUS Horn 75: 133. RHIZOPHAGUS Schæffer 13: 309, Méquignon 14: 173.

MONOTOMIDÆ Horn 79: 257. BACTRIDIVM Csy. 16: 97.

CUCUJIDÆ Lec. 54: 73, Csy. 84: 69, 90: 496 (subfam.), Wickham 95: 25-29 (Ont., Que.), Peyerimhoff 02: 717 (genera of larvæ), Böving 21: 200 (subfam. of larvæ), 202 (genera of larvæ of *Silvaninæ*). ORYZÆPHILUS Chittenden 96: 198.

- CATOGENUS Csy. 16: 114. NARTHECIUS Csy. 90: 322. INOPEPLUS-LAEMOPHLEUS, DYSMERUS Csy. 16: 118 (genera and subgenera). LAEMOPHLEUS Csy. 16: 127 (*Silvanophleus*). Brontini Csy. 90: 498 (genera).
- EROTYLIDÆ** Lec. 54: 158, Crotch 73: 349, Wickham 94: 339-342 (Ont., Que.). Languriinæ Fowler 08: G. I. 78 (genera). LANGURIA Schæffer 04: 198. Erophylinæ Kuhnt 09: G. I. 88 (genera). DACNE Csy. 16: 153.
- CRYPTOPHAGIDÆ** Csy. 00: 75. DIPLOCÆLUS Horn 78: 606. TOMARUS Horn 95: 240.
- MYCETOPHAGIDÆ** Lec. 56: 12 (imperfect), Csy. 00: 128. MYCETOPHAGUS Horn 78: 603. LITARGUS Horn 78: 606, Csy. 16: 174 (*Litargellus*).
- COLYDIIDÆ** Horn 78: 555. EUCICONES Csy. 97: 632. BITOMA Schæffer 07: 136. LASCONOTUS Kraus 12: 27. CERYLON Csy. 97: 634.
- MURMIDIIDÆ** Horn 78: 555-592, Csy. 95: 452.
- LATHRIDIIDÆ** Lec. 55: 299, Fall 99: 101, Belon 02: G. I. 3 (genera). DASYCERUS Horn 82: 117.
- MYCETAEIDÆ, ENDOMYCHIDÆ** Lec. 53: 357, Crotch 73: 359, Wickham 94: 337-339 (Ont., Que.).
- PHALACRIDÆ** Lec. 56: 15 (imperfect), Csy. 90: 89. PHALACRUS Csy. 16: 35. OLIBRUS Csy. 16: 45. ACYLOMUS Csy. 16: 74. STILBUS Csy. 16: 55. LEPTOSTILBUS Csy. 16: 71.
- COCCINELLIDÆ** Crotch 73: 363 (except *Scymnus*), Csy. 99: 71, Wickham 94: 297-306 (Ont., Que., except *Scymnus*), Gage 20: 27 (larvæ of certain genera and species). HYPERASPIS Lec. 80: 186, Nunenmacher 11: 73 (*lateralis* group). BRACHYACANTHA Leng 11: 289. MICROWEISEA Horn 95: 82. SCYMNUS Horn 95: 87, Wickham 99: 82 (Ont., Que.). CEPHALOSCYMNUS Horn 95: 111. DELPHASTUS Horn 95: 83. PSYLLOBORA Leng 03: 210. Coccinellini Leng 03: 36 (genera allied to *Hippodamia*), 03: 194 (genera allied to *Coccinella*). CERATOMEGILLA Leng 03: 38 (*fuscilabris* group). HIPPODAMIA Leng 03: 40, Timberlake 19: 167 (*convergens* group), 171 (*glacialis* group). COCCINELLA Leng 03: 196

(subgenera), 197 (subg. *Coccinella*). CYCLONEDA Leng 03: 202 (*sanguinea* group). ADALIA Leng 03: 194. ANISOCALVIA Leng 03: 206. NEOMYSIA Leng 03: 208. **Chilocorini** Leng 08: 34 (genera). AXION Leng 08: 34. CHILOCORUS Leng 08: 36. EXOCHROMUS Leng 08: 36-41.

ALLECULIDÆ Csy. 91: 69, Lec. 66: 137 (genera), Seidlitz 98: 7-9 (genera of larvæ), Kuhnt 13: 1119 (genera of larvæ). HYMENORUS Lec. 66: 135. MYCETOCHARA Lec. 78: 616. LYSTRONYCHUS Horn 94: 433.

TENEBRIONIDÆ Horn 70: 253, Csy. 90: 391-393 (tribes of Tenebrioninæ), Seidlitz 98: 211-216 (genera of larvæ), Kuhnt 13: 1120 (genera of larvæ).

Tentyriinæ Csy. 07: 275. **Eurymetopini** Csy. 90: 330, 347. EMMENASTRICHUS Horn 94: 413. TRIMYTIS Horn 94: 412. PROMPTOPION-CHILOMETOPON Csy. 90: 366. POLEMIOTUS-PHENGONEUS Csy. 91: 53-54. MICROMES, OXYGONODERA, STIBIA Horn 74: 29. EDROTES Csy. 90: 174, 502. **Zopherini** Horn 67: 162, Csy. 07: 35-38. **Nosodermini** Csy. 07: 42-44. USECHUS Csy. 90: 176. ARÆOSCHIZUS Csy. 90: 368, Horn 90: 339. DACODERUS Horn 76: 219, 93: 139. ANEPSIUS Csy. 91: 55. SCHIZILLUS Blaisdell 21: 207. **Asidini** Csy. 12: 70, Horn 94: 416 (part of *Asida*). MICROSCHATIA Horn 93: 140.

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Blaptinae: **Eleodini** Blaisdell 09: 1-524. ELEODES Lec. 58: 180 (imperfect), Blaisdell 21: 132 (*vandykei* group).

Coniontinae Csy. 08: 51. **Coniontini** Horn 76: 200 (genera). EUSATTUS Lec. 66: 112, Horn 83: 304, 94: 423. CONIONTIS-CONIONTELLUS Csy. 90: 372, 388. CÆLOTAXIS Horn 76: 201, Csy. 90: 177. CÆLUS Csy. 90: 178, 95: 611, Blaisdell 19: 318, 323.

Pedininae: ULUS-CONIBIOSOMA, TRICHOTON Csy. 90: 409, 95: 616 (genera). CONIBIUS-NICIBIOTES Csy. 95: 617-622.

Opatrinae: ALAUDES Blaisdell 19: 312.

Phaleriinae Lec. 66: 125.

Bolitophaginae Csy. 90: 486, 95: 623 (genera).

- Ulominæ** Lec. 66: 130 (genera of Hypophlœini). **LATHETICUS** Chittenden 10: 137. **ULOMA** Lec. 66: 124. **APHANOTUS** Csy. 90: 483. **HYPOPHLÆUS** Lec. 78: 424.
- Tenebrioninæ** St. George 24: 10 (genera of larvæ). **POLOPINUS** Csy. 24: 326. **CÆLOCNEMIS** Csy. 24: 314. **TENEBRIO** St. George 24: 10 and 26: 106 (larvæ). **ALÆPHUS** Fall 05: 276, 07: 174.
- Adeliinæ**: **CRATIDUS** Csy. 90: 407.
- Helopinæ**: **HELOPS** Horn 80: 152 (apterous species), Blaisdell 21: 230 (part).
- Strongyliinæ** Lec. 78: 425.
- LAGRIIDÆ** Horn 88: 28, Seidlitz 98: 312 (genera of larvæ). **ARTHROMACRA** Leng 17: 17. **STATIRA** Schæffer 05: 179, Leng 23: 185.
- MONOMMIDÆ** Horn 72: 150.
- MELANDRYIDÆ** Horn 88: 43 (tribes), Seidlitz 98: 413, 416, 419, 438, 465, 503, 506, 588, 619, 646, 678 (genera except Scraptiini), 376-381 (genera of larvæ), Kuhnt 13: 1117 (genera of larvæ). **Tetratomini** Csy. 00: 166. **PISENUS** Horn 78: 608 (*Triphyllus*). **EUSTROPHINUS-HOLOSTROPHUS** Horn 88: 32-36. **HALLOMENUS** Lec. 78: 619. **ORCHESIA** Horn 88: 37. **Melandryini** Lec. 66: 146 (genera of part). **MELANDRYA-EMMESA** Seidlitz 98: 619, 626. **SERROPALPUS** Seidlitz 98: 582. **DIRCÆA-ABDERA** Horn 88: 39 (*Hypulus*). **Scraptiini** Lec. 66: 144 (genera). **LACCONOTUS**, **MYCTERUS** Horn 79: 336-339.
- PTINIDÆ** Fall 05: 99-127.
- ANOBIIDÆ** Fall 05: 127-283, Lec. 65: 22 (except *Euceratocerus* and *Ptilinus*), Perris 77: 248 (genera of larvæ), Böving 27: 57 (genera of larvæ). **EUCERATOCERUS** Csy. 98: 61. **TRICHODESMA** Horn 94: 388. **CATORAMA** Lec. 78: 410, Horn 94: 390 (part). **PTILINUS** Csy. 98: 61. **CÆNOCARA** Lec. 78: 412.
- BOSTRICHIDÆ** Horn 78: 540, Lesne 96: 95-121, 97: 319-350, 98: 438-621, 00: 473-639, 06: 445-561, 09: 471-594 (species of world). **Bostrichini** Csy. 98: 65 (genera). **DENDRO-**

BIELLA-STEPHANOPACHYS Csy. 98: 67-73 (except *Lichenophanes*).

LYCTIDÆ Kraus 11: 116. **LYCTUS** Csy. 90: 324, 91: 13.

SPHINDIDÆ Csy. 98: 921 (except *Eurysphindus*).

CISIDÆ Lec. 74: 87, Csy. 98: 77, Dury 17: 4 (except previous species of *Cis*).

SCARABÆOIDEA Chapuis and Candèze 55: 114 (groups of larvæ), Perris 77: 98-103 (genera of larvæ), Kuhnt 13: 1085 (groups of larvæ), Fowler 12: 203 (groups of larvæ), Henriksen 25: 135 (fam. of larvæ).

SCARABÆIDÆ Arrow 09: 484 (subfam.), Fowler 12: 210, 212 (subfam.), Wickham 94: 197-207, 229-234, 259-262 (Ont., Que.), Dawson 24: 4 (Nebr.), Henriksen 25: 143, 153, 159, 165 (groups and certain genera of larvæ), Böving 21: 58 (larvæ of certain genera of Melolonthinæ, Rutelinæ, and Dynastinæ).

Coprinæ: **CANTHON** Lec. 59: 1-58, von Harold 68: 1-144, Horn 70: 44, Blanchard 85: 164. **CHERIDIUM** Horn 75: 137, Blanchard 85: 170. **PINOTUS**, **COPRIS** Horn 70: 42, Schæffer 06: 255. **PHANÆUS** Blanchard 85: 168. **ONTHOPHAGUS** Horn 75: 137, Schæffer 14: 137.

Ægialiinæ Horn 71: 293, Lec. 78: 610, Horn 87: 98, Schmidt 13: G. I. 150 (genera).

Aphodiinæ Horn 70: 110-134 and 71: 284-297, 87: 1-110, Schmidt 10: G. I. 110 (genera). **APHODIUS** Garnett 20: 140 (*subeolus* group).

Ochodæinæ Lec. 68: 51, Horn 76: 180, Fall 09: 30, Schmidt 13: G. I. 150 (genera).

Hybosorinæ Schmidt 13: G. I. 150 (genera).

Geotrupinæ Schæffer 06: 250 (genera, and species except *Odonotæus* and *Geotrupes*), Boucomont 02: G. I. 7 (genera).

Bolbocerini Horn 70: 48-50 (imperfect). **BOLBOCEROSOMA** Dawson and McColloch 24: 10. **GEOTRUPES** Horn 68: 313-320, 80: 145, Blanchard 88: 105.

Pleocominæ Lec. 74: 81, Horn 88: 04, 88: 234.

Glaphyrinæ Horn 82: 119.

Troginæ: GLARESIS Fall 07: 25. TROX Lec. 54: 211, Horn 74: 1, 6.

Melolonthinæ Lec. 56: 225-288. ONCERUS Horn 94: 395. CHNAUNANTHUS Horn 94: 395. DIPLLOTAXIS Fall 09: 11. PHYLLOPHAGA Horn 87: 209, Smith 88: 503 (*fusca* group), Forbes 91: 48 (Ill.), 94: 141 (Ill.). LISTROCHELUS Horn 78: 137. PHYTALUS Horn 85: 119. POLYPHYLLA-PECTRODES Csy. 14: 307 (genera). POLYPHYLLA Horn 81: 73, Csy. 91: 17, 14: 323. THYCE Csy. 90: 170, 14: 308. DICHELONYX Horn 76: 186, Fall 01: 280. CÆNONYCHA Horn 76: 192. MACRODACTYLUS Horn 76: 184. HOPLIA Lec. 80: 191, Essig 26: 445 (certain Calif. species).

Rutelinæ Csy. 15: 1. RHOMBONALIA-PACHYSTETHUS Horn 84: 157 (*Anomala*), Schæffer 07: 69 (*Anomala*). OLIGANOMALA, STRIGODERMA, ALAMONA Schæffer 07: 73. COTALPA-POCALTA Horn 67: 169, 71: 338, Wickham 05: 1-4.

Dynastinæ Csy. 15: 107. **Cyclocephalini** Lec. 63: 79, Horn 71: 335. LIGYRODES-OXYGRYLUS Lec. 47: 86, 56: 19 (imperfect), Horn 75: 143. PSEUDAPHONUS-ORIZABUS Lec. 56: 21 (imperfect). ANASTRATEGUS-STRATEGUS Horn 75: 143. **Phileurini** Horn 80: 147.

Cetoniinæ Csy. 15: 274. EUPHORIA Horn 79: 397, Fall 05: 272 (*fulgida* group). CREMASTOCHEILUS Horn 70: 339, 80: 332, 85: 126 (part). TRIGONOPELTASTES-TRICHIOLINUS Horn 76: 194.

LUCANIDÆ, PASSALIDÆ Fuchs 82: 49, Wickham 99: 21-25 (Ont., Que.), Henriksen 25: 135 (larvæ of Danish species). PLATYCERUS Csy. 85: 332. **Passalidæ** Kuwert 96-98.

CERAMBYCIDÆ Lec. 50: 311-340 and 51: 5-38 and 52: 99-112, 139-178, Wickham 97: 81-88, 105-111, 148-153, 169-173, 187-193, 201-208 and 98: 37-44 (Ont., Que.), Leng 84: 7 (subfam.), Craighead 23: 26-138 (larvæ), Webb 12: 115-155 (genera of larvæ), Kuhnt 13: 1122 (genera of larvæ), Smith 89: 158 (subfam. of larvæ), Henriksen 14: 89-93 (larvæ of Danish species).

- Prioninæ** Leng 84: 8-11, 57-60 (except Parandrini), Craighead 23: 28 (genera of pupæ), Lameere 19: G. I. 172 (genera). PARANDRA Csy. 12: 216. ARCHODONTES-STENODONTES Csy. 12: 221 (genera and subgenera). ERGATES Csy. 90: 491. DEROBACHUS Lameere 11: 274, Csy. 12: 230 (*Orthosoma*), Schæffer 02: 235 (s. str.). PRIONUS Csy. 12: 231, 24: 209 (except *Neopolyarthron* and *Antennalia*). TRAGOSOMA Csy. 90: 491, 99: 98.
- Cerambycinæ** Leng 84: 60-64, 95-101, 112-119 and 85: 28-35, 130-136 and 86: 27-32, 60-63, 81-83, 102-103, 118-120 and 87: 192-200, 4-8, 23-24, 44 and 90: 9-13, 65-69, 97-103, 104-110, 156-160, 185-200, 213-214; Lec. 62: 38 (groups). **Disteniini** Boppe 21: G. I. 178 (genera). SPONDYLIS Csy. 12: 218. ASEMUM Csy. 12: 257. NOTHORHINA Csy. 12: 263. TETROPIUM Csy. 91: 22. CRIOCEPHALUS Lec. 73: 169. ŒME Csy. 24: 251. TESSAROPA Horn 85: 197, 95: 247. EBURIA Lec. 73: 179. ROMALEUM-ANOPLIUM, PSEUDIBIDION Csy. 12: 290 (genera). ROMALEUM Lec. 73: 181. HYPERMALLUS-ELAPHIDION, ANEFLMORPHA Lec. 73: 182. HYPERMALLUS Csy. 12: 299. ANEPYRA-ANEFLUS Lec. 73: 185. HETERACTHES Csy. 12: 307. **Lepturini, Dorcasomini** Boppe 21: G. I. 178 (genera: does not include Casey's genera). RHAGIUM Csy. 13: 194. HAPALOSALIA Csy. 13: 200. CENTRODERA Van Dyke 27: 102 (Pacific species). STENOCORUS Csy. 13: 206. BRACHYSOMIDA-ACMÆOPS Lec. 73: 208, Csy. 13: 219. ANTHOPHILAX Nicolay 17: 39. JUDOLIA-LEPTURA Lec. 73: 215. BRACHYLEPTURA Csy. 13: 252 (*vagans* group). STRANGALIA Csy. 13: 258 (*obliterata* group). XESTOLEPTURA Csy. 13: 263 (*crassipes* group). STROPHIONA Csy. 13: 265. LEPTURA Csy. 13: 266 (groups), 269 (*Cercolia*), 270 (*Dorcasina*). TYPOCERUS Lec. 73: 213, Csy. 13: 274 (*velutinus* group). OPHISTOMIS Lec. 73: 212 (*Strangalia*). DESMOCERUS Horn 81: vii, Webb 05: 105. NECYDALIS Van Dyke 23: 52. ROSALIA Csy. 12: 313. HYLOTRUPES Csy. 24: 232. ANACOMIS Csy. 12: 272. MERIUM-PHYTATODES Csy. 12: 275-287. **Clytini** Csy. 12: 347 (genera). CYLLENE Horn 80: 134. XYLOTRECHUS Csy. 12: 360, 363, 365 (parts). TRIDOCLYTUS

Csy. 12: 374 (*Paraclytus*). MICROCLYTUS, CYRTOPHORUS, Tillomorphini Schæffer 04: 223 (genera). RHOPALOPHORA Csy. 91: 30. STENOSPHEENUS Horn 85: 177. ANCYCLOCERA Csy. 94: 585, 24: 251. STENASPIS Csy. 12: 319. TRAGIDION Csy. 94: 586, 12: 321. ÆTHECERINUS Horn 80: 133. OXOPLUS Horn 85: 175. TYLOSIS Csy. 12: 341. CROSSIDIUS Lec. 73: 196, Csy. 91: 31. SPHÆNOTHECUS Csy. 91: 34, 12: 333 (subgenera). BATYLE-BATYLEOMA Horn 78: 41, Csy. 12: 326 (genera). BATYLE Csy. 12: 327. DENDROBIAS Csy. 12: 315.

Lamiinæ Hamilton and Leng 96: 101, Lec. 62: 38 (groups). IPOCHUS Csy. 91: 44, 13: 279. MONEILEMA Lec. 73: 229, Horn 85: 180, Csy. 13: 281. PSENO CERUS Csy. 91: 46. MONOCHAMUS Lec. 73: 231, Horn 85: 190, Csy. 13: 291, Hopping 22: 253. PTYCHODES Csy. 94: 593. DORCHASCHEMA Horn 85: 194. GOES Horn 85: 193, Csy. 13: 296. MICROGOES Csy. 13: 298. SYNAPHÆTA Csy. 13: 299. **Acanthoderini, Acanthocinini, Graphisurini** Horn 80: 115-133. **Acanthoderini** Csy. 13: 301 (genera). LEPTOSTYLUS-ASTYLIDIUS Lec. 73: 232. LEPTOSTYLUS Csy. 13: 317. NYSSODRYSINA-LEIOPUS Lec. 73: 235 (part). LEIOPUS Csy. 13: 310 (part). HYPERPLATYS Csy. 91: 50, 13: 324. **Graphisurini-Dectini** Csy. 13: 332-341. POGONOCHERUS Lec. 73: 237, Horn 78: 42, Schæffer 09: 102, Fall 10: 7, Csy. 13: 345. EUPOGONIUS Horn 85: 196. ONCIDERES Horn 85: 194, Schæffer 06: 18, Csy. 13: 352. ATAXIA Fall 07: 85. SPALOCOPSIS Csy. 91: 51, 13: 355. SAPERDA Lec. 73: 238, Felt and Joutel 04: 15, Mutchler and Weiss 23: 21 (N. J.). MECAS Horn 78: 44, Csy. 13: 360. OBEREA Horn 78: 45, Csy. 13: 364, Mutchler and Weiss 23: 25 (N. J.). TETROPS Horn 78: 50. TETRAOPES Horn 78: 48, Csy. 13: 375.

CHRYSOMELIDÆ Crotch 73: 19-83 (subfam. and genera), Wickham 96: 67-74, 151-157, 171-174, 199-203 and 97: 7-12, 29-37, 60-63 (Ont., Que.), Sanderson 01: 29 (subfam. of larvæ), MacGillivray 03: 294 (larvæ, pupæ, adults of subfam. Donaciinæ and Galerucinæ).

Sagrinæ Jacoby 03: G. I. 14 (genera).

- Donaciinæ** Schæffer 25: 45, Jacoby and Clavereau 04: G. I. 21 (genera). **DONACIA** Lec. 51: 310, Crotch 73: 20, Leng 91: 159, Schæffer 19: 308 (subgenera), MacGillivray 03: 314 (eggs, larvæ, pupæ, adults of N. Y.).
- Orsodacninæ** Horn 92: 1-7 (no keys to genera). **ORSODACNE** Hatch 24: 307. **ZEUGOPHORA** Wickham 99: 86 (Ont., Que.).
- Criocerinæ**: **CRIOCERIS** Pic 06: 121 (var. of *asparagi* L.). **LEMA** Crotch 73: 24.
- Megascelinæ** Jacoby and Clavereau 05: G. I. 32 (genera).
- Clytrinæ** Clavereau 07: G. I. 49, 49 bis (genera). **ANTIPUS** Ortenburger and Hatch 26: 147 (part). **Megalostomini** Horn 92: 10-18 (no key to genera). **SAXINIS** Horn 92: 8, Schæffer 06: 226.
- Fulcidacinæ** (Chlamydinæ) Achard 14: G. I. 160 (genera). **BOLOSCHESIS** (*Chlamys*) Linell 97: 476, Schæffer 06: 229, 26: 182. **EXEMA** Crotch 73: 30.
- Cryptocephalinæ** Lec. 80: 196-209 (no key to genera), Fall 15: 300 (certain genera). **GRIBURIUS** Crotch 73: 32. **PACHYBRACHYS** Fall 15: 308. **MONACHULUS** Crotch 73: 30.
- Eumoplinae** Horn 92: 195. **NODONATA** Schæffer 06: 238. **GRAPHOPS** Lec. 84: 26. **FIDIA** Schæffer 04: 227. **MYOCHROUS** Schæffer 04: 228. **CHRYSOCHUS** Horn 85: 156.
- Chrysomelinæ** Stal 62: 7 (genera). **Timarchini-Chrysomelini** Rogers 56: 29 (imperfect). **Prasocurini-Chrysomelini** Crotch 73: 47-51. **PRASOCURIS** Lec. 66: 9. **Chrysomelini** Linell 96: 195. **PHÆDON** Crotch 73: 52. **GASTROIDEA** Crotch 73: 51. **PHYTODECTA**, **SPARTOPHILA** Notman 21: 76 (genera). **PHYTODECTA** Schæffer 24: 140. **PHYLLECTHRUS** Horn 96: 376.
- Galerucinae** Horn 93: 57, Lec. 65: 213 (*Galeruca*, et al.). **TRIRHABDA** Lec. 65: 219, Schæffer 06: 242. **GALERUCELLA** Fall 24: 82 (N. Eng.), Mutchler and Weiss 26: 14 (N. J.). **MONOXIA** Lec. 65: 221. **DIABROTICA** Lec. 65: 211, 68: 58 (grucps). **PHYLLOBROTICA** Lec. 65: 206, Horn 96: 378. **LUPERODES** Lec. 65: 208. **PHYLLECTHRUS** Lec. 65: 207.
- Halticinae** Horn 89: 163, Heikertinger 25: 54 (genera). **ÆDIONYCHIS** Crotch 73: 57. **DISONYCHA** Crotch 73: 64. **HALTICA**

- Woods 18: 154-155 (adults, eggs, larvæ, pupæ of Me.).
 LACTICA Horn 80: 151, Schæffer 06: 251. LUPERALTICA Horn
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- Hispinæ Horn 83: 290, Weise 11: G. I. 125 (genera). ANOPLITIS
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- Cassidinæ Barber 16: 126.
- MYLABRIDÆ Horn 73: 311. MYLABRIS Fall 10: 160-188
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- RHYNCOPHORA Lec. and Horn 76: 1-455 (the few genera for
 which no specific keys are provided are usually those mono-
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- BRENTIDÆ Horn 72: 127, Schæffer 15: 52, von Schönfeldt
 08: G. I. 65 (genera).
- PLATYSTOMIDÆ: ANTHRIBUS Schæffer 04: 236.
- BELIDÆ Lea and Bovie 09: G. I. 91 (genera).
- CURCULIONIDÆ Pierce 19: 22 (certain subfam.), Cotton
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- Rhinomacerinæ Pierce 09: 325.
- Rhynchitinæ Pierce 13: 365 (genera). AULETES Pierce 09: 326.
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- Apioninæ: APION Smith 84: 41, Fall 98: 105, Wagner 13: G. I.
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- Tachygoninæ Csy. 97: 679.
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